Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
1998 Biennial Regulatory Review —	)	ET Docket No. 98-42
	)	
Amendment of Part 18 of the Commission's Rules to Update Regulations For RF Lighting Devices	)	

COMMENTS OF THE PART 15 COALITION

The Part 15 Coalition ("the Coalition"), by its attorneys, submits these comments in response to the above-referenced Notice of Proposed Rulemaking ("NPRM"). The Coalition represents companies that manufacture and market radio technologies designed to operate in compliance with the Commission's Part 15 rules.

DISCUSSION

In the NPRM, the Commission has proposed several changes to its Part 18 rules. Among other things, these changes are intended to promote the development and deployment of RF lighting devices in the 2.4 GHz ISM band (2400-2500 MHz). However, because of the serious interference potential of these devices, the Commission also seeks comment on ways in which it can protect existing users in that band, and in adjacent frequency bands.

The Coalition supports the Commission's effort to provide interference protection for existing users in the 2.4 GHz band. The NPRM fails, however, to discuss or consider some of the most important users of the band — those operating, or relying upon, unlicensed Part 15 technologies. In order to protect Part 15 technologies operating in the 2.4 GHz band, the Commission should not only adopt out-of-band radiation limits as proposed in the NPRM, but also in-band radiation limits as outlined herein.

I. The Commission Should Protect The Important Communications Services Provided By Part 15 Technologies Operating In The 2.4 GHz Band.

As the Commission itself recognized only two years ago, "Part 15 devices provide a variety of consumer and business oriented services that benefit individuals, commercial services, and private spectrum users, and they also have applications for public safety and medical needs..... These and other applications of technologies implemented through Part 15 devices have the potential to benefit virtually every person and business in the nation, as well as to promote American competitiveness abroad."[1] On this basis, the Commission concluded that "the public is best served by providing for the continued availability of [the 2400-2483.5 MHz] band for Part 15 equipment."[2]

In the NPRM, by contrast, the Commission notes its concern regarding possible interference from RF lighting devices to other services operating in and near the 2.4 GHz band, including the Digital Audio Radio Service and the Mobile Satellite Service, but fails entirely to mention the extensive use of the 2.4 GHz band by unlicensed technologies operating under Part 15. This oversight should not be reflected in the Commission's final rulemaking in this proceeding.

The public need for unlicensed services has been well established by the hundreds of Part 15 wireless products now available and the hundreds of thousands of devices now in operating in the field. Schools, hospitals, utility companies, and the general public have greatly benefited from low-cost deployment of communications and monitoring services. Indeed, based upon the FCC's policy of promoting the growth and development of unlicensed operations in the 2.4 GHz band, and upon the success of that policy in the U.S., many other nations, including

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[1] In the Matter of Allocation of Spectrum Below 5 GHz Transferred from Federal Government Use, 10 FCC Rcd 4769, 4786 (1995). Among other things, the Commission noted that the benefits of Part 15 technologies include: "lower costs of energy through automatic meter reading and optimized power generation, low-cost broadband access to Internet services and other information networks for schools, libraries, telecommunters and home offices, mobility of telephonic and computer communications within offices and homes without extensive reconstruction and wiring, immediately installable video conferencing among and between buildings for educational instruction, health care monitoring and judicial procedures without construction of special studio facilities, safe transport of chemicals and petroleum products through low-cost and easily deployable pipeline monitoring services, and control for potentially tens of thousands of traffic lights, at less than one-third the cost of wireline solutions, to ease road congestion, and significantly reduce pollution and new street construction." Id.

[2] Id.

those in the European Union, Japan, and other industrialized countries, have authorized unlicensed spread spectrum operation at 2.4 GHz.[3]

The consistency of international allocations in this regard has made it much easier for manufacturers in the U.S. to market Part 15 technologies abroad and, today, U.S.-based companies have established a global leadership position in the market for unlicensed communications technologies designed to operate at 2.4 GHz.[4] Lucent Technologies, Raytheon, Symbol Technologies, BreezeCom, Proxim, Netwave, Aironet and others have developed wireless communications technologies for use in the 2.4 GHz band.

The export opportunity created and fostered by the U.S. Part 15 allocation at 2.4 GHz will be lost, however, if Part 15 technologies are crowded out of the 2.4 GHz band by RF lighting devices. In addition, any change in the Part 18 rules that would inhibit unlicensed operations in the band would jeopardize the significant private investment already made in developing new technologies operating under Part 15 and strand users in the U.S. who have come to rely on those technologies. Thus, whatever rules the Commission adopts in this proceeding, they should be carefully tailored to protect the continued use of the 2.4 GHz band by Part 15 technologies.

II. Two Of The Possible Rule Changes Discussed In The NPRM Would, If Adopted, Promote Spectrum Sharing And Protect Existing Users In The Band, Including Part 15 Users.

First, the Coalition strongly supports the Commission's proposal to add out-of-band radiation limits above 1 GHz for RF lighting devices.[5] Radio emissions generated by microwave lighting systems, such as those proposed by Fusion, are particularly problematic for most of the communications products operating in the 2.4 GHz band. Indeed, the proponents of RF lighting devices have themselves cautioned that microwave lighting may cause "intolerable" interference to communications technologies operating in nearby frequencies.[6] For that reason, the

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[3] See Allocation of Spectrum Below 5 GHz Transferred from Federal Government Use, 9 FCC Rcd 6779, 6788 (1994).

[4] Allocation of Spectrum Below 5 GHz, 9 FCC Rcd at 6788.

[5] NPRM ¶ 12.

[6] See Amendment of Parts 2 and 15 of the Commission's Rules Regarding Spread Spectrum Transmitters, 12 FCC Rcd 7488, 7494 (1997) (citing Comments of Fusion Systems Corporation).

Commission should adopt its proposal to add out-of-band radiation limits above 1 GHz for RF lighting devices.

Further, to ensure that in-band users are protected, the Coalition also supports the suggestion that an in-band radiation limit should be established for RF lighting devices above 1 GHz.[7] As the Commission recognizes in the NPRM, RF lighting devices can be expected to proliferate as the technology matures.[8] These devices will, no doubt, get smaller and cheaper, and their applications will migrate from heavy-industrial to light-commercial and high-density-residential settings. Unlike the microwave ovens with which these devices are compared in the NPRM, however, which are characterized by intermittent indoor operation, RF lighting devices will be used extensively in outdoor applications and they likely will operate 24 hours a day, or for large portions of the day or night.

As noted above, there are hundreds of thousands of Part 15 technologies operating at 2.4 GHz, many of which involve applications for outdoor use. These technologies, however, will be threatened by outdoor-mounted Part 18 lighting devices due to the unrestricted propagation environment in which they will be deployed and the fact that the Part 18 lighting devices may be operated on a near-continuous basis.

The Coalition, therefore, recommends that, in order to protect the numerous communications technologies now deployed both for wireless LAN and outdoor wireless point-to-point systems in the 2.4 GHz band, Part 18 RF lighting in-band emissions should be limited to the Part 15 radiated emissions level of 100 uV/m (corrected for a measurement distance of 30 m) for non-consumer equipment and 50 uV/m for consumer equipment. Measurements for all radiation levels from RF lighting devices should be made with typical power line wiring arrangements so that any line-conducted emissions at 2.4 GHz that may re-radiate will be detected.

In combination, the out-of-band radiation limits proposed by the Commission and the in-band limits outlined above will facilitate band sharing at 2.4 GHz and promote the public interest in the development of RF lighting devices while simultaneously protecting communications services operating in these bands. Further, the cost of additional shielding to achieve the in-band limits proposed by

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[7] NPRM ¶ 13.

[8] Id.

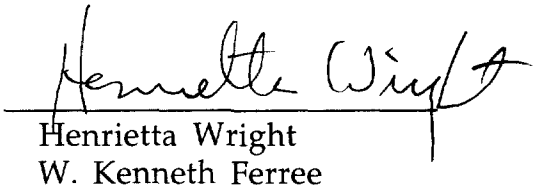
the Coalition should be minimal if the Commission adopts the out-of-band limits proposed in the NPRM. There is, therefore, no countervailing public interest consideration weighing against the adoption of an in-band radiation limit for RF lighting devices at 2.4 GHz.

CONCLUSION

For the reasons set forth above, the Coalition supports the adoption of out-of-band radiation limits above 1 GHz for RF lighting devices and further supports the adoption of in-band limits consistent with those applicable to Part 15 technologies.

Respectfully submitted,

THE PART 15 COALITION

By: 

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July 8, 1998